

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-006293**Date Inspected:** 14-Apr-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1845**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 645**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower Fabrication**Summary of Items Observed:**

CWI Inspectors: Mr. Li Lin, Mr. Dong Liang Jin

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

Prior to Caltrans QA Inspectors' concurring with issuance of OBG deck plate closed rib green tag releases a review of the ultrasonic inspection database is performed to verify all closed rib tack weld repair locations have been ultrasonically accepted. Today this QA Inspector, Mr. Paul Dawson, performed data entry of ultrasonic inspection information from the field generated Ultrasonic inspection data sheets onto the common drive computer database for the following OBG deck panels: DP097-001, DP503-001, DP347-001, DP256-001, DP283-001, DP310-001, DP098-001, DP286-001, DP336-002, DP390-001 and DP497-001.

Tower Bay 11

This QA Inspector observed ZPMC welder Mr. Huang Guo qi, stencil 059525 is using flux cored welding procedure WPS B-T-2232-TC-U5F to make stiffener to skin plate tack weld ESD1-FBSA3-2AC-3B, and ZPMC welder Mr. Li Zhao qian, stencil 048810 is using flux cored welding procedure WPS B-T-2232-TC-U5F to make stiffener to skin plate tack weld ESD1-FBSA3-2AC-3A. The QA Inspector observed the base material being preheated using a torch and that ZPMC QC representative Mr. Cao Cheng monitoring these welds. The QA

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Inspector asked Mr. Cao Cheng what welding current and voltage he had previously observed for the welds that had been made and Mr. Cheng showed the QA Inspector that his clipboard weld monitoring sheet only listed the welders' identifications, welding procedure and weld numbers but it had no welding current or voltage. Mr. Cheng also said he had to walk to his office to get a welding amperage measuring probe. A few minutes later Mr. Cheng returned with a welding amperage measuring probe and he measured Mr. Li Zhao qian having a welding current of 295 amps and 26.5 volts. The QA Inspector measured the welding current of Mr. Huang Guo qi to be 285 amps and 34.4 volts. The QA inspector informed Mr. Cheng that Mr. Guo qi appears to have excessive welding voltage and Mr. Cheng measured and agreed the voltage was too high, and Mr. Cheng decreased the voltage to approximately 31 volts. Items observed by this QA Inspector do not appear to be fully progressing in compliance with project specifications. See the photograph below showing ZPMC using a torch to preheat the base material where the tack weld is to be deposited.

The QA Inspector observed ZPMC welder Ms. Liu Xiaoyan stencil 207745 is using welding procedure specification WPS-B-T-2221-B-U3-C-S-2 to make submerged arc groove weld NSD1-FBSA3-3A/C-18B. The QA Inspector observed ZPMC Quality Control personnel monitoring this welding and the QA Inspector observed ZPMC Quality Control personnel had measured a welding current of approximately 680 amps, 31.5 volts and a welding speed of 542 mm per minute. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Ms. Cao Gui Mei stencil 047304 is using welding procedure specification WPS-B-T-2221-B-U3-C-S-2 to make submerged arc groove weld WSD1-FBSA3-2B/C-20B. The QA Inspector observed ZPMC Quality Control personnel monitoring this welding and the QA Inspector observed ZPMC Quality Control personnel had measured a welding current of approximately 660 amps, 32.0 volts and a welding speed of 510 mm per minute. Items observed by the QA Inspector appear to comply with project specifications.

This QA Inspector observed ZPMC welder Mr. Yu Jun, stencil 201825 is using flux cored welding procedure WPS B-T-2232-TC-P5-F to make South Tower Lift 3 stiffener plate to tower skin plate E weld SSD1-FESA3-1B/D-63. The QA Inspector observed that the base material had been preheated using electrical heater elements. The QA Inspector observed ZPMC Quality Control personnel had measured Mr. Yu Jun having a welding current of 328 amps, 31.5 volts and a weld travel speed of 320 mm per minute. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Yu Jun, stencil 201825 is using flux cored welding procedure WPS B-T-2232-TC-P5-F to make South Tower Lift 3 stiffener plate to tower skin plate E weld SSD1-FESA3-1B/D-52. The QA Inspector observed that the base material had been preheated using electrical heater elements. The QA Inspector observed ZPMC Quality Control personnel had measured Mr. Yu Jun having a welding current of 330 amps, 31.4 volts and a weld travel speed of 320 mm per minute. Items observed by this QA Inspector appear to be progressing in compliance with project specifications

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Summary of Conversations:

See above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Serge Sinevod phone: 134-8257-0045 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Clifford,William	QA Reviewer
